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ABSTRACT

The performance correlates of perceptions of discriminatory treatment, satisfaction, and self-concept for male and female U.S. Military Academy Cadets in the Classes of 1980 and 1981 were investigated. Numerous instruments were used for data collection, including the Tennessee Self-Concept Scale, the Spence Attitude Toward Women Scale, the West Point Equality Scale, the Military Career Commitment Gradient, the Academy Graduation Commitment Gradient, the Cohesiveness and Conformity Pressures Scale, and the Basic Satisfaction Scale. Data were collected upon entrance to the Academy, after Cadet Basic Training, and after completion of the first academic year. Results indicated that: (1) leadership ratings for women have the same pattern of correlates as those for men, but when the groups are combined, women with the same performance and entrance motivation as men were given higher leadership ratings; (2) the life cycle plans of women are more closely linked to adjustment measures than are those of men; (3) for women, low grades and low peer acceptance were related to high test anxeity; and (4) women perceived greater discriminatory treatment than did men. (Author/HLM)

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WOMEN AT WEST POINT: THEIR PERFORMANCE AND ADJUSTMENT

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ABSTRACT

The paper itself was the basis for an oral presentation which was made to an audience of military officers and civilian research workers at a symposium on "New Roles for Military Women," in August 1978. It is being published now to assist research workers, to add to the available literature on women in new military roles, and to provide insight into factors which influenced the adjustment of women at the US Military Academy.

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PREFACE

On 29 August 1978, the division of Military Psychology of the American Psychological Association presented a symposium on "New Roles for Military Women." Colonel Robert Nichols, then of the US Army War College, was the symposium organizer and discussant; it was at his invitation that the present paper was written. The paper itself was the basis for an oral presentation which was made to an audience of military officers and civilian research workers who were at the symposium. It is being published now to assist research workers, to add to the available literature on women in new military roles, and to provide insight into factors which influenced the adjustment of women at the Military Academy.

We would like to thank the following individuals for their contributions to the research and comments on an earlier version of this paper: MAJ Alan Vitters, the co-director of Project Athena--who deserves to be listed as a co-author for his many contributions (unfortunately, RP did not get the paper to MAJ Vitters before PCS); to Mr. Ted Davidson, Mr. Claude Bridges, & LTC Carlton Bacon, of the Office of the Director of Institutional Research; and to Major Jerome Adams, the new Director of Project Athena. We would also like to thank Mrs. Susan Griffiths for the excellent, expeditious secretarial services.

WOMEN AT WEST POINT: THEIR PERFORMANCE AND ADJUSTMENT[1]

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The thrust of this Symposium is to raise questions about the role of women in the Military "now that the traditional role has been abolished." The Symposium will emphasize studies of the performance of women in both enlisted and professional roles in all branches of the Military.

To the question of role definition for women in the Military, it is not easy to give a satisfactory answer, particularly since the advisability of using women in combat is negated by senior military officials (Clark, 1978). A rational systems design would begin with a clear-cut specification of the jobs to be held, and follow with an analysis of the skills and training needed for effective job performance. It can be argued that such a model for job design is useful for enlisted personnel, but it is entirely inappropriate as a model for understanding the role of women at the military academies. The military academies are not designed to train people for highly specific roles, but to educate, motivate, and socialize them into the military profession. Although the creation of volunteer Military is one of the forces which make the military career more like a "job" rather than a "calling" (Moskos, 1976), there is reason to believe that the military academies will maintain their original emphasis on motivating cadets toward military careers, educating them broadly, and to socializing them into the customs and traditions of their particular Service.

What is the role of the woman cadet at the academies? Because there were no roles for women before 1976, there was no traditional role to abolish. Nevertheless, there was initially some uncertainty about how similar the role of women and men cadets could be, given the limits an assignment of women to combat specialties after graduation.

A survey of faculty at West Point, in 1976, described elsewhere (Priest, 1976) showed considerable variation in philosophical orientation toward West Point's role expectations of women cadets. Table 1 shows the results: the more junior officers tended to favor combat leadership training, the more senior officers favored a more limited training. Surprisingly, cadets tended to favor noncombat leadership training for women. Since 1976, a number of very concrete, specific decisions have been made to define the role of women at the academies. The type of physical training, the kind of billeting, and many more issues were decided in the first two years of integration (1976-1978). Some other aspects of the role-definition of the woman cadet still remains to be worked out. During their third summer of military training, some cadets are normally assigned as squad leaders for the Basic Training of New Cadets. This summer, eight

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[1] Prepared for a Symposium on "New Roles for Military Women," Tuesday, 29 August 1978 at the meeting of the APA in Toronto.

TABLE 1

Responses to the Question: "Consider the current laws against women in combat and West Point's traditional mission of training combat leaders. How should West Point train women cadets?"

Rank	N	Percent A: Train them as Combat Leaders	Percent B: Train them for Leadership Roles in Noncombat Situations
Faculty, 1976			
Lieutenant	7	71%	29%
Captain	107	57	43
Major	82	54	46
Lieutenant Colonel	24	46	54
Cadets, 1976	2910	44	56

women cadets from the Class of 1980 (out of 70 women in the corps, 11%) and 28 men (out of 923, or 3%) were selected for this kind of leadership role. Other cadets in the same class are sent to serve as assistant troop leaders in Regular Army units in the U.S. and Europe. This summer, both men and women were selected for coveted training assignments in Europe. It is clear that the women cadets are not being given less desirable leadership assignments than men. As the Class of 1980 (the first group to have women cadets) advances toward graduation, further details of the role of the woman cadet must be decided. Guiding such decisions, the new official mission statement of the Academy (adopted in March 1977) emphasizes that each cadet should have attributes essential to "a career . . . as an officer of the Regular Army." Nothing is said in this statement which implies graduates must be trained for combat leadership, even though that has traditionally been the implicit unofficial goal of USMA.

Prior Research

A number of behavioral scientists have reported on the progress of women at the academies during the first year of integration (1976-1977). Marshak, Gilman, & Nelson reported last year to the APA (1977) on the attitudes toward women at the Air Force Academy, before and after Summer Training. At the ASA meetings, DeFluer and Gilman (1977) described the characteristics of men and women entering USAFA, their attitudes to women cadets at entrance and after six months, and their interaction patterns. DeFluer, Gilman, and Marshak (1977) described the leadership backgrounds which were associated with military order-of-merit performance within each gender subgroup. For the Naval Academy, Durning (1978) described the differences between men and women in demographic characteristics and attitudes to women, end of year grades, as well as the effects of contact with women on men's attitudes, the development of friendship patterns, and problems of the female minority.

At West Point, there were a series of institutional research studies on the attitudes of cadets and faculty before the integration of women (Priest, 1976a; 1976b). The characteristics of the Class of 1980 men and women, in comparison to those of college men and women at other four-year schools at entrance were described extensively by Priest & Houston (1977). Project Athena, which was co-sponsored by the Army Research Institute and West Point, to study the assimilation of women to West Point over the first four years, began to publish its findings. Priest, Prince, Rhone, and Vitters (1977) described the characteristics of men and women on a number of clinically important measures: test anxiety; self-concept scales developed by Spence, to measure masculine and feminine styles of self-attribution; a situational fear survey; measures of career commitment, and motivation to graduate from the Academy. Vitters and Kinzer (1976) compared the performance of men and women during summer training, the first summer. Priest (1977) described the differences in perceived inequitable treatment, during that summer, of males and females. Vitters and Kinzer (1977) described group differences in performance of men and women cadets in academics, leadership, athletics, extracurricular activities, demerits, and other matters. Additional material describing the

process of integration was presented by Priest, Prince, and Vitters (1977) and by Vitters, Kinzer, and Priest (1977).

In all the many reports on the progress of women during the first year at the service academies, there have been few which went beyond comparing gender subgroups to studying the predictors of adjustment within each subgroup. The obvious comparisons between groups are the ones which command the most public interest; group comparisons are the most direct way of documenting the effects of past discrimination, and there are several excellent reviews which do this (Eckstrom, 1972; O'Leary, 1974). Unfortunately, direct subgroup comparisons cannot show subtle differences in the process by which individuals within the subgroup change and develop. In addition, scientific studies of group differences often fail to quantify the extent of overlap between groups, and thus may tend to reinforce stereotypes about such group differences (see Allport, 1954, p.83). Furthermore, there is evidence that a strong preoccupation with exact equality of treatment of subgroups may be related to a lack of sensitivity to individual differences in needs and expectations within groups. For these reasons, this report will focus on the predictors of individual performance and adjustment within women and, separately, within men.

This report will focus, specifically, on performance correlates of perceptions of discriminatory treatment, satisfaction, and self-concept. Performance in summer training, academic grades, and leadership are the primary variables. Attrition of men and women cadets is the subject of several current theses, and will be dealt with here only briefly. Although there is, naturally, some implicit concern about differences between the Class of 1980 and the Class of 1981, only a brief comparison between the two classes will be attempted (Houston, 1978, has compared the the men and women in the Class of 1981, at entrance, and found many of the same differences that had been found the previous year.) Another unpublished comparison showed that men and women entered with about the same attitudes and motives as they had the previous year. Women in the Class of 1981 seemed to be stronger, physically, than the women in the previous class (Vitters, 1978).

Two major theoretical concerns have guided the design and execution of this particular analysis. The first is that the individual's self-concept is particularly important in predicting adaptation to a stressful environment such as the first year at West Point. It was expected that males and females with relatively positive self-concepts would perform well at West Point. Since West Point very self-consciously avoided setting up separate (& possibly second class) training programs for women, except for very narrowly defined physical training programs, it was also expected that women's success at West Point could be judged in the same terms as men's. A second concern was that men and women's plans and expectations regarding life cycle events would be potentially different and, if so, of higher critical importance for women cadets' long-range adjustment than men's--given the greater potential role conflict for women. Sheehy's (1976) analysis of the life styles of successful women, suggested that planning for delay in marriage and childbearing, until their careers were established first, would be characteristic of the successful adapter.

Method

Subjects

The subjects of this analysis include men and women in the Classes of 1980 and 1981. At entrance, there were 119 women and 1,366 men in the Class of 1980; 104 women and 1,365 men in the Class of 1981. As of 30 June 1978, there were 70 women and 923 men in the Class of 1980; 82 women and 1,065 men in the Class of 1981.

Data Collection

A great deal of quantitative information on the performance, aptitude, motivations, and attitudes of both male and female cadets in the Class of 1980 has been collected, and described in detail in previous reports (Priest, Prince, & Vitters, in Press; Priest, Prince, Rhone, & Vitters, 1977). A general overview is presented here, as well as a more detailed presentation of those measures which are unique to the present analysis.

Predictors

Data on personal adjustment, using the Tennessee Self-concept Scale (TSCS), were collected at entrance, and after CBT in 1976. Data on satisfaction with the West Point experience (BSATIS) were collected from half the samples in a survey in April 1977. Data on the perception of the company's "Cohesiveness and Conformity Pressures (ACOHES, ACONFORM)" were collected from the other half of the sample.

Attitude measures include the Spence Attitude Toward Women Scale (AWS), which was measured at entrance and after CBT. A scale measuring rigid vs flexible approach to equality of treamtent developed at West Point (Equality) was measured at entrance and in April 1977. Measures of the subjective probability of remaining in the Army for a 20-year career (Military Career Commitment Gradient, MCCOG), and remaining at the Academy until graduation (Academy Graduation Commitment Gradient, AGCOG) were collected at entrance, and 14 months later in September 1977. In addition, data on perceptions of discriminatory treatment "due to race, ethnicity, or sex"--either severe (victimization) or kind (protection) treatment received by the self, on the perception of kind treatment given to others (jealousy)--were collected in September 1976 and September 1977.

Performance Measures

a. Leadership was measured by several components:

(1) Performance ratings by the Cadet Chain of Command during CBT, and twice during the Academic Year. These three ratings were summed to produce a composite measure of the chain of command component of leadership evaluation (COC).

(2) Nominations by members of the same class (1980) and company of the highest and lowest 25% who meet a complex ability criterion ("ability

to command a group of men . . . while maintaining discipline, morale . . . integrity"). This component was evaluated twice during the Academic Year, and summed to produce a composite rating (PEER). Similar nominations were also made by upperclassmen and analyzed in a similar manner (upper).

(3) The company tactical officer rates his cadets, relative to others in the same class, in "performance" and "potential," twice a year (TAC).

b. Physical performance during summer training was measured by the number of times the individual was unable to complete the 18 required physical conditioning runs, conducted during the early morning hours (fall-outs).

c. Military skill performance during summer training was measured by the number of pop-up targets, out of 80, which the cadet was able to hit (marksmanship) with an M16 rifle.

d. Academic Grade Point Average (YEAGPA) is the cumulative grade point average achieved in all academic courses at the end of the first academic year.

e. Attrition--for purposes of analysis, attention was divided into: (1) those who left prior to 28 August 1976; (2) those who left prior to 31 December 1976; and (3) those who left prior to 30 June 1977.

Results and Discussion

Perception of Discriminatory Treatment

In an earlier report, it was noted that women reported higher levels of severe treatment which they attributed to "race, ethnic group membership, or sex," in comparison to men, during Summer 1976 (Priest, 1977). In a later report it was shown that women also reported more such discrimination during the Academic Year (Priest, Prince, Vitters, 1977). The earlier analyses suggested that women's "visibility" as a minority group might be the source of much of the treatment. Table 2 presents correlations between several performance and motivational variables and the perception of discriminatory treatment (termed victimization) at two points in time. Only variables which showed significant correlations with women's victimization scores are included in the table. As one might expect, individuals who perceive discriminatory treatment at either time period were more likely to be dissatisfied with West Point at the end of their first year. Either the discriminatory treatment caused the dissatisfaction, or people who are likely to be dissatisfied are more sensitive and, hence, more likely to perceive discriminatory treatment; the data do not allow us to decide which of these two explanations is more correct. AWS was the only variable which was consistently related to the perception of discriminatory treatment among cadet women at both times. Either women with high AWS scores (implying very nontraditional sex-role beliefs) were more sensitive, or they were actually treated more severely than others. Performance variables do not relate consistently to women's victimization scores at both times. Thus, there is little evidence to

TABLE 2

CORRELATES OF PERCEIVED DISCRIMINATORY TREATMENT

Correlation Between:	Fall '76		Spring '77	
Victimization[a] and:	M	F	M	F
Dissatisfaction	.10*	.59*	.17*	.43*
	(399)	(29)	(453)	(37)
Fall-outs CBT	.01	.37*	.00	.06
	(1025)	(65)	(850)	(60)
Marksmanship	-.00	.07	-.03	.23*
	(1062)	(80)	(876)	(73)
AWS - Entrance	-.04	.31*	-.05	.24*
	(1004)	(76)	(823)	(69)
Anxiety - RW 76	.04	.22*	.02	.03
	(10791)	(81)	(779)	(61)
MCCOG - Entrance	.01	-.28*	.03	-.02
	(1004)	(76)	(823)	(69)

*$p < .05$

[a]Source: DSR 211x, 30 May 76.

support the notion that certain women were consistently treated in what was perceived as a discriminatory manner because of their performance. In general, the results do suggest that factors which account for women's perceptions of discriminatory treatment are different than factors which may account for men's perceptions of discriminatory treatment.

It might be argued that the level of stress which was placed on cadets in the 1976-1977 Academic Year was partly responsible for levels of victimization reported in the Class of 1980. The Academy took several steps to change the training climate for the Class of 1981 in 1977-1978. A training program for upperclass cadets emphasized positive leadership, more time, and less yelling at new cadets. One result seems to be that attrition was lower in the Summer of 1977 than it was in Summer of 1976. Table 3 shows the reported levels of discriminatory treatment in the Classes of 1980 and 1981, by men and women. The table shows only partial support for this stress hypothesis. At the end of Summer Training 1981, men did report lower levels of discriminatory treatment than men of the Class of 1980. The effects were not only significant, for men, but were also medium in size. In contrast, for women in 1981, the level of perceived discriminatory treatment received was not significantly lower. Women's victimization scores are not related to the level of stress in CBT.

Peer Acceptance

High leadership ratings by peers indicate that a woman or man was regarded as relatively capable--one measure of success as a cadet. It is generally assumed that such ratings reflect cadet performance; Table 4 supports this belief. Both for men and women, physical ability and successful performance were positively related to high peer ratings. For women cadets, fall-outs were negatively related to peer ratings to a highly significant degree. For men, the correlation was not significant. This result reflects the highly visible nature of "falling out" as a performance, and women were much more likely to fall out than men in 1976. Except for fall-outs, the results indicate that peers used similar performance and ability criteria for evaluating each gender. The criteria--physical strength, marksmanship, and grades--are believable as indicators of important aspects of West Point--physical, military, and academic.

It might seem, since men and women's peer ratings are based on the same criteria, that men and women can be evaluated by the same rating system. Vitters and Kinzer (1977) showed, however, that women cadets in the Class of 1980 were not rated as highly by peers and upperclassmen as men in that class; in contrast, ratings by Company Tactical Officers, and the Cadet Chain of Command gave equal mean ratings to both genders. In order to evaluate further the nature of sex bias in leadership ratings, a series of multiple regression analyses were conducted. The basic question to be answered was this: when both male and female samples are combined, is sex a significant predictor of leadership when other relevant individual characteristics are first controlled? The relevant prior individual predictors of leadership were considered in three stages: (1) physical ability measured at entrance (PAE), which had been shown to be related to leadership in previous classes; (2) performance at West Point, consisting of

TABLE 3

MEAN DISCRIMINATORY TREATMENT PERCEIVED

		1980	1981	t	Size of Effect[a]
Victimization:					
	M	1.72	1.20	-12.89***	.56
	F	2.39	2.59	+.71	.11

***p < .001

[a]Cohen's measure of effect size, d (1969, p.18): Values of .20 or below are considered "Small"; .50 to .80 are considered "Medium"; above .80, "Large."

TABLE 4

ABILITY AND PERFORMANCE AS PREDICTORS OF PEER ACCEPTANCE

Predictor	Men		Women	
PAE	.14*	(1078)	.20	(86)
Fallouts, CBT	-.05	(1042)	-.40*	(68)
Marksmanship, CBT	.10*	(1074)	.25*	(85)
Grade Point Average	.23*	(1088)	.34*	(88)

*$p < .05$

fall-outs, marksmanship, and Grade Point Average; (3) motivational characteristics at entrance--TSCS total positive score, MCCOG, FEMVAL, MALVAL. For each component of the Leadership Evaluation System (Peer, Upper, TAC, COC), a multiple regression model was constructed. Table 5 shows the results.

Table 5 shows that sex is still a significant predictor of leadership when other relevant individual characteristics are controlled, for all components of the evaluation system. None of the models explains more than 18% of the variance in any component of leadership rating. On an absolute scale, leadership ratings are not as predictable as, for example, college grades. Table 6 shows how sex would affect the ratings for each model. The first column, giving zero-order correlations between sex and leadership, merely restates the basic finding reported above: at a superficial level, TAC and COC were unbiased, whereas Peer and Upper were not. When the sign of the correlations is negative, it indicates that women cadets received lower ratings than men. It is interesting to note that when one controls for physical ability, the correlations with TAC and COC became significantly positive. The same is true for the more complex models: when one controls for relevant ability, performance, and entrance motivations, the partial correlation between sex and leadership is positive; that is, women received significantly higher leadership ratings than would have been predicted on the basis of their ability, performance, or entrance motivation. The positive bias in favor of women is most strongly evident in the ratings of TAC and COC.

In these analyses, the Physical Aptitude Score (PAE) for men and women was based on four components, only three of which were common to both sexes. Thus, the correlation between sex and PAE (r=-.69) may be spuriously low as a result of different subtests being given to men and women (i.e., Flexed-arm Hang for women vs Pullups for men). As a result, the partial correlations between sex and leadership may have been undercorrected for PAE. The size of the bias in favor of women, in predicting TAC ratings, was estimated to be about one standard deviation; that is, assuming a standard deviation of 100, women cadets would tend to receive a rating of 100 points higher than men, from their Tactical Officer. Because of the differences in men's and women's PAE, the exact size of the bonus given to women cadets may be underestimated. In future research, it will be even more difficult to control for PAE effects in a common regression equation, since the Class of 1981 PAE scores are standardized separately for each sex.

In examining the issue of potential bias in leadership ratings, we would recommend caution in interpreting a difference in group means as the sole criterion of unfairness (American Psychological Association, 1974, p.43), or the lack of differences as an indication of fairness. The mean ratings in the Class of 1981 were apparently equal for men and women in the Upper, TAC, and COC components (Vitters, 1978, p.69). As the results above indicate, equality of means may conceal a positive bias toward women, given objectively equal performance and motivation at entrance. Such a positive bias may have been justified in the first year when there was uncertainty about the performance of women, and when there was a need to treat the groups as equals. In the long run, however, it implies continued separate treatment of men and women, and a lack of equity in treatment

TABLE 5

ADJUSTED SQUARED MULTIPLE CORRELATION BETWEEN EACH MODEL AND LEADERSHIP

Leadership Component	Model 1 PAE Only	2 +Performance	3 +Motivation	4 +Sex
Peer	.032	.107	.127	.132
Upper	.047	.136	.151	.153
TAC	.020	.126	.142	.174
COC	.016	.108	.121	.152

Note: The squared multiple R has been adjusted for bias, using the common shrinkage formulae. In each row, each R^2 is significantly greater than the R^2 in the prior column.

of individuals. Male cadet perceptions of inequitable favoritism granted to women may have originally been based primarily on sex-role traditionalism (Priest, 1977), but there is, as Table 6 shows, some factual evidence that women are given higher leadership ratings than their measured performance warrants. Since leadership ratings themselves are not highly predictable, it is conceivable that some aspect of leadership behavior not measured by fall-outs, marksmanship, or academic grades, may account for the positive bias toward women.

Effects of Prior Training on Cadet Performance

Women's socialization into traditionally female sex roles during their early life may result in lowered self-confidence in achievement settings (Lenney, 1977), or other barriers which limit their access to professional or leadership roles. Lockheed (1975) suggested that women be given task specific competence training prior to interaction with males, and showed how this could increase their chances of attaining leadership. For these reasons, it might be expected that women and men who entered the Class of 1980 with either prior military training or college training would perform better than cadets with only high school background.

Some women and men cadets had attended the U.S. Military Academy Preparatory School (USMAPS), an Army school designed to prepare Army personnel academically and militarily for West Point. Table 7 shows the mean peer rating and Academic Grade Point Average for cadets who had attended the Prep School, had prior college, or neither. For both women and men, cadets who had attended USMAPS had significantly higher peer ratings than those with only high school experience. For men only, the USMAPS experience is also associated with a relatively low Academic Grade Point Average. This most likely reflects the way men are selected for attendance at USMAPS, which is different from the way women were selected for the Class of 1980. The findings support the hypothesis stated earlier: prior experience with special preparatory training has a positive impact on the leadership performance of men and women.

Change in Motivation and Self-concept

A previous report described the changes in cadets' self-concepts, attitudes, and motivation over the first few months of Basic Training in the Summer of 1976. At the end of training, the results seemed mostly positive: an increase in academy graduation commitment, no decrease in Military Career Commitment, an increase in positive self-concept, and an increase in internal locus of control. It was concluded that women had adjusted to Summer Training much the way men did (Priest, Prince, Vitters, 1977). There is always the possibility that such positive indications of change represent a kind of Hawthorne effect (resulting from awareness of participating in an "experiment") which has the support of the organization, or perhaps the effect of social pressures from the upper class on the New Cadets to present themselves in a favorable, well-adjusted perspective. Measures of Military Career Commitment, Academy Graduation Commitment, Academy Graduation Commitment, Test Anxiety, and the Spence Masculinity-Femininity measures were readministered to the Class of 1980

TABLE 6

PARTIAL CORRELATIONS BETWEEN SEX AND LEADERSHIP

Leadership Component	0 Zero Order r	Holding Constant Model 1 Ability	Holding Constant Model 2 +Performance	Holding Constant Model 3 +Motivation
Peer	-.112**	.020	.087**	.077*
Upper	-.144**	.011	.071**	.060*
TAC	-.007	.131***	.204**	.190**
COC	.004	.132***	.195**	.191**

*p < .05

**p < .01

***p < .001

TABLE 7

EFFECTS OF USMAPS ON PRIOR COLLEGE ON PERFORMANCE

		HS Only	Some College	USMAPS	F Ratio
Men	(N)	(691)	(61)	(135)	
	Peer Acceptance	9.63	9.75	9.85	5.14[a]
	Academic GPA	2.52	2.51	2.42	16.80[b]
Women	(N)	(45)	(12)	(8)	
	Peer Acceptance	9.11	9.59	10.10	6.89*
	Academic GPA	2.47	2.49	2.46	0.13

*$p < .005$

[a] $p < .01$

[b] $p < .001$

Note: For men, peer acceptance and GPA correlate .25; for women, .31.

in August 1977, after they had been "recognized" as upperclassmen, after the stress of being a plebe was removed, and after their second summer of training was completed. Thus, the changes reported in Tables 8 and 9 below represent a much longer exposure to West Point. The longitudinal sample includes only those who persisted and gave complete information on all measures. As Table 8 shows, women's military career motivation decreased significantly over time; Table 9 shows that men's MCCOG also declined significantly. The results indicate that both genders were becoming less idealistic over time about the absolute necessity for a military career, a trend which seems contrary to the stated mission of the Military Academy to "motivate" cadets toward an Army career. However, the measures obtained in August of 1976 may have been spuriously high due to the positivity bias mentioned above. Students in other professions tend to show a similar decline in professional idealism over time; so the trends reported here may not be totally artifactual.

The tables also show that men, who had been higher in Academy graduation commitment than women, decreased significantly in AGCOG, whereas the women did not. The women who stayed were as committed to graduate as the men, and similar rates of subsequent attrition should be expected, since other research shows that AGCOG is one of the best predictors of attrition.

The tables also show that men and women decreased in test anxiety. It appears as if the successful completion of the first year and the removal of the stressful plebe system had a favorable effect on the level of test anxiety in cadets.

The tables show no changes in the masculinity of self-attributions for either gender, although men became significantly less feminine in self-attribution. This means that men were less likely to describe themselves as warm, understanding of others, helpful, gentle, devoted to others, kind, aware of the feelings of others--after a year of West Point training. The change seems to indicate a decrease in traits that might be valuable traits for a leader to have in certain kinds of situations. Spence and her co-workers have suggested that having such traits in combination with the masculine ones are associated with good adjustment in modern society. There are no data which show whether or not "androgyny," as Spence defines it, is useful for military officers to have. If it is, then the men cadets lost a useful aspect of their self-concept in the stressful plebe year. For the women cadets, the results show that exposure to the masculine environment of West Point did not adversely affect the feminine side of their self-concept (warm, etc.), while maintaining or slightly increasing the masculine (competitive, etc.) aspects.

In general, these results indicate the importance of continuing to study cadet motives and self-concepts throughout the four-year cadet experience, since the changes at the end of the first summer did not hold up. To a certain extent, measures taken at the end of summer training may reflect self-presentation biases. It is anticipated that analyses of mood data, obtained on a weekly basis from cadets in the Classes of 1980 and 1981, may shed more light on the subjective stress reactions of cadets to the summer training.

TABLE 8

CHANGES IN WOMEN'S MOTIVATION, AND SELF-CONCEPT

	N	August 1976	August 1977
Military Career Commitment (MCCOG)	62	59.62	56.29
Academy Graduation Commitment (AGCOG)	55	71.64	70.32
Test Anxiety (TESTANX)	63	6.35	4.97
Spence Short Form PAQ:			
Masculinity	63	22.09	22.84
Femininity	63	23.16	23.06

*p < .05

**p < .01

TABLE 9

CHANGES IN MEN'S MOTIVATION, AND SELF-CONCEPT

	N	August 1976	August 1977	t
Military Career Commitment (MCCOG)	803	60.14	55.24	9.52***
Academy Graduation Commitment (AGCOG)	686	76.05	68.58	11.17***
Test Anxiety (TESTANX)	833	5.08	3.90	12.31***
Spence Short Form PAQ:				
Masculinity	841	24.13	24.29	-1.17
Femininity	842	22.12	21.70	3.07**

**$p < .01$

***$p < .001$

Performance and ability as Predictors of Changes in Motivation and Self-concept

It was expected good performance by cadets would result in positive changes in their self-concept, and motivation. To measure the effects of performance on attitude change, the four performance variables and PAE were correlated with cadet scores on the motivation (and self-concept) variables described in the last section. To control for initial individual differences on each of these variables, the cadet's score on each variable (measured the prior year) was held constant by means of partial correlation. The results may be interpreted as valid measures of motivational/self-concept change. The results, shown in Table 10, give qualified support to the hypothesis: some of the performance variables do relate significantly to some of the measures of cadet motivation and self-concept. None of the performance variables had a significant relation to changes in Military Career Commitment. Although both men and women's mean level of MCCOG had decreased significantly (shown above), the loss of career motivation cannot be attributed to poor performance. For Academy graduation commitment (AGCOG), as one might expect, poor grades were associated with low commitment to graduate, significantly for women cadets, but not for men. At the University of Missouri, a similar interaction between sex, grades, and aspiration level was observed (Priest, unpublished data): women seem to be more easily discouraged by poor grades, in comparison to men.

Test anxiety is strongly affected by grades, the results show. Both men and women with lower grades score higher on test anxiety. For women, in addition, low peer acceptance is also related to high anxiety. Individual differences in changes in test anxiety, which these data reflect, are the most reliable of the variables in this analysis: tests of the significance of the increment in variance accounted for by adding the five performance/ability variables were highly significant for both genders ($F=17.21$, $p < .001$ for women; $F=8.78$, $p < .001$ for men). None of the other four motivational/self-concept variables in the table pass the same F-test, and the reliability of the implied change score may be regarded as less firmly established, for both sexes.

Changes in men's masculine self-concept (MALVAL) are significantly affected by their physical ability and their peer acceptance. Men with above average physical skills, and men with above average peer ratings, tended to show the best adjusted MALVAL score. That is, after the men's physical ability and their peer acceptance were evident, they increased significantly in masculine self-attributions (independent, competitive, active, decisive, persistent, self-confident, feels superior, stands up well under pressure). For women, peer acceptance had a similar impact on changes in masculine self-attribution, but the correlation was not statistically significant. For women, fall-outs related negatively to MALVAL; that is, women who had an above average number of fall-outs during basic training tended to decrease their masculine self-attributions over the course of the year.

Changes in feminine self-attributions (FEMVAL) are also related to peer acceptance among men. Men with an above average peer acceptance

TABLE 10

PARTIAL CORRELATIONS BETWEEN PERFORMANCE AND MOTIVATION SCORE, HOLDING CONSTANT INITIAL MOTIVATION

Score in August '77		Performance Variable				
		PAE	Fall-outs	Marksmanship	Peer	GPA
MCCOG	M	.02	.06	.02	.04	-.03
	F	-.01	.12	-.15	-.06	-.06
AGCOG	M	.02	.07	-.01	.05	-.05
	F	-.12	.09	.05	-.16	-.37*
MALVAL	M	.15*	.03	.05	.16*	.02
	F	.01	-.32*	.09	.23	.05
FEMVAL	M	.01	-.00	.01	.09*	-.06
	F	-.02	-.09	.30*	.12	.04
ANXIETY	M	.03	-.05	.04	.03	-.22*
	F	.04	.16	.15	-.40*	-.66*

*p < .05

Note: For each row in the above table, a different variable was partialed out: the score of the same variable in August 1976.

tended to increase in feminine self-attributions (understanding, warm, emotional, gentle, helpful, kind, aware of the feelings of others). It sounds a little bit like the concept of good sportsmanship: the winners were nice guys--after they won. For women, good marksmanship was associated with an increase in feminine self-attributions. Again, the good sportsmanship model applies, except women were affected by marksmanship more than by peer acceptance. The importance of marksmanship to women's changes in feminine self-attributions is surprising, since it contrasts with the literature which suggests women are overly dependent on peer approval. As a cautionary note, changes in FEMVAL are less reliable than changes in test anxiety, and further confirmation is needed for the findings.

Life Style Preference and Life Cycle Plans

Earlier reports showed that men and women entered USMA with very different preferences for life styles involving various combinations of marriage, career, and children (Priest, Prince, Rhone, & Vitters, 1977, p.31). The preferred life style for both men and women was a combination of marriage, full-time job, and children. For the women cadets, however, marriage and a job without children was preferred more frequently than marriage and children without a full-time job, in contrast to women of comparable age surveyed by Gallup. In addition, it was shown that women cadets expected to have fewer children than other college women (Priest & Houston, 1977). These results seemed to be consistent with the career goals of the women.

In Passages, Gail Sheehy describes the life histories of several adult women, differentiating: (1) between women who had their children early--seeking for a career later in life, versus (2) those who became established first in their career and then had children. She implied that the latter type of response was more successful. Although the woman's movement has argued forcefully that both types of life cycle plans should be accommodated, society and the Military in particular are currently more ready to accept the second: defer children until after the career is well-established. It was hypothesized that the successful adjustment of women cadets would be characterized by a kind of anticipatory socialization for the second life style plan. Furthermore, it was assumed that both men and women cadets could plan rationally for such life cycle events as engagement, marriage, and parenthood. An instrument for measuring such life cycle plans was designed and administered to cadets in the Class of 1981 at entrance, and to the Class of 1980 in August 1977. Appendix 1 shows this instrument. Table 11 shows the mean time delay score for men and women. For work cycle events, men and women cadets did not differ in the time they expected to live overseas for a year or more, or in being promoted to an extremely responsible job. For the entering cadets in the Class of 1981, men expected to leave military service later. For the Class of 1980, there was no difference. This result is consistent with other data on the career motivation of the Class of 1980. For the family cycle events, women plan longer delays in attainment than men, in both classes. The anticipatory socialization hypothesis is supported by these data. In more general terms, the results indicate that women are using a

TABLE 11

LIFE CYCLE PLANS OF MEN AND WOMEN CADETS

	Mean Delay of Attainment			
	Class of 1980[a]		Class of 1981[b]	
Family Cycle Events	M	W	M	W
Engagement	3.43	3.95*	3.37	4.27*
Marriage	4.08	4.58*	3.91	4.76*
Become a Parent	4.75	5.69*	4.80	5.88*
Work Cycle Events				
Live overseas for a year or more	3.83	3.63	4.38	4.39
Be promoted to an extremely responsible job	4.51	4.81	4.69	4.87
Leave Military Service	5.92	5.84	6.75*	6.06
N	647	59	1147	86

*Significantly higher than the other gender at the .05 level for the given Class Year, by a t-test.

delay-of-gratification strategy, similar to that used by other upwardly mobile groups in the past. Paradoxically, as the Armed Services are becoming increasingly a group with a high percentage of married members (Goldman, 1976), these future women officers are projecting a lower speed of marriage.

The family cycle events' delay-of-attainment estimates were summed for each cadet, and correlated with other variables. Table 12 shows selected correlations for men and women. For women, but not for men, delay of family cycle events were related to satisfaction with West Point, belief in a more combat-oriented mission of West Point, Military Career Commitment, Academy Graduation Commitment, and plans to delay leaving the Military Service. These results indicate that women's family cycle plans are more closely tied to their work cycle plans than are the men's. Does this reflect a realistic perception that service life requirements are incompatible with family life for women officers, or is it simply only a reaction to the anti-women cadet attitudes those women encountered their first year? The data do not permit analyses which would provide an answer. National sample surveys have shown that, over the last few years, women's beliefs about their roles at work have become more highly related to their beliefs about their roles in the home (Mason, Czaja, Arber, 1976). The cadet data are consistent with this finding.

A note of caution must be added to these interpretations. It will take a long time for any empirical evidence to accumulate on the validity of these long-range planning measures. Long-range plans for family cycle events can be disrupted by situational factors, such as romantic involvement with a particular individual. Some women cadets have already resigned, in order to marry Second Lieutenants they met when the men were cadets here. It is too early for there to be cases where a male cadet underclassman resigns to marry a graduating female firstclassman; but if such cases occur, it would indicate a significant reversal of traditional courtship roles. The data indicate that women cadets face problems in integrating family and work cycles which male cadets do not; and this factor may have a bearing on women's choice of branches, or other aspects of their adjustment in the Army.

Conclusions

This paper has shown some of the dynamics of women's and men's adjustment to West Point. The primary focus has been on perceptions of discriminatory treatment, leadership, self-concept change, and life cycle plans. Although women cadets perform moderately well in cadet roles, the analysis has shown that certain aspects of their adjustment has a different pattern of correlates than for men. The antecedents of women's perceptions of discriminatory treatment are different than men's. Women's leadership ratings have the same pattern of correlates as men's, but when the two groups are combined, women with the same performance and entrance motivation as men were given higher leadership ratings. Self-concepts and motivations show a similar pattern of changes for both men and women, with a couple of exceptions. Women's life cycle plans are closely linked to

TABLE 12

CORRELATES OF PLANS FOR DELAY OF FAMILY LIFE, ENGAGEMENT, MARRIAGE, AND FAMILY

	Men	Women
BSATIS[a]	.09	.37*
Mission of West Point Combat Training	.04	-.26*
MCCOG '77	.01	.34*
AGCOG	-.02	.24*
Leave Military Service Plans	.03	.26*
Marksmanship	-.04	-.23

Source: DSR 211x, 2 May 78.

*$p < .05$

[a]Rescaled so that high scores indicate high satisfaction.

Note: For BSATIS, N = 457 for men; N = 39 for women. For other variables, the smallest N = 763 for men; N = 65 for women.

measures of adjustment, but men's are not. Thus, though men and women perform similar roles, they adapt in different ways to those roles.

Although we have analyzed correlates of performance in the first 14 months of training of the Class of 1980, and presented some comparable data from the first two months of experience with the Class of 1981, it is too early to determine whether the Class of 1981 will show the same pattern of performance correlates. Additional measures of performance, such as demerits, attainment of the recondo patch, squad leader or assistant troop leader evaluations, retention, need to be included in future analyses. As women assume positions of leadership within the corps, their reactions to being leaders, and the reactions of their subordinates should be studied.

West Point has decided to extend Project Athena for another two years, until the Class of 1980 graduates. Studies of subordinate perceptions of squad leaders, and the performance of women in subsequent year groups are underway, under the direction of Major Jerome Adams, of the Department of Behavioral Science and Leadership. Even after Project Athena terminates, however, there will be opportunity for follow-up studies of these women 5, 10 and 20 years after graduation from the Academy.

General Summary

Now that the traditional role of women in the Army has been abolished, what is the new role?

This question requires a different answer for the modern volunteer Army than it does for the service academies. There was no traditional role at the service academies to abolish, since there were no women service academy cadets before 1976. But the military academies are not designed to train people for highly specific jobs. They are designed to motivate cadets toward a life of service to the nation, and to educate them broadly for what Moskos terms a "calling."

Before women became cadets at West Point, younger faculty believed that, given West Point's "traditional mission of training combat leaders," West Point should continue to emphasize this tradition in training women cadets. In contrast, the older, higher ranking faculty tended to believe in a more restricted "training for leadership in noncombat situations," given the laws restricting the assignment of women to combat branches after graduation from the Academy. To some extent, the problem of defining a role for women cadets has been complicated by having to choose, philosophically, between these two mutually exclusive alternatives.

But, in spite of the philosophical dilemma, decisions were made about physical training, billeting, and military training of women cadets during the first year of integration, 1976-1977. After the first year, women in the Class of 1980 underwent cadet field training in the Summer of 1977, and many, although not all, received the coveted recondo patch. During the 1977-78 Academic Year, women cadets performed as well as men in overall Grade Point Averages. This summer, women in the Class of 1980 are

beginning their second class summer training, some serving as assistant troop leaders in Europe, and some as squad leaders for the basic training of new cadets in the Class of 1982. We have no data yet on the performance of women in these assignments. There are still more decisions to be made about the academic concentrations which the women cadets will pursue, the leadership positions they will fill as seniors in the 1979-1980 Academic Year corps structure, and the branches of the Army they will choose on graduation. Thus, the actual role of women cadets in the corps is only gradually being defined by the administration, and the performance of the women themselves.

A number of behavioral studies have reported on the progress of women at the academies during the first year of integration (1976-1977). In most, the primary focus was on comparing men and women as groups. This report focused on the correlates of performance and adjustment within each group, thus refining and clarifying some of the prior findings.

Women's perceptions of discriminatory treatment are important factors in their adjustment to the Academy, regardless of whether or not men cadets agree with their perceptions. An analysis of the correlates of perceptions of discriminatory treatment was presented. For both men and women, those who perceived that they had been treated severely, either after basic training or at the end of the year, tended to be dissatisfied with West Point. Except for dissatisfaction, women's perceptions of discriminatory treatment have a different pattern of correlates than men's. Women who perceived higher levels of severe discriminatory treatment, termed "victimization," tended to have had very nontraditional sex-role attitudes when they entered. The data do not permit causal mechanisms to be evaluated.

During the 1977 basic training of the Class of 1981, a concerted effort was made to reduce the level of arbitrary stress on cadets. Attrition was lower in this class. Men cadets perceived a lower level of discriminatory treatment against themselves, in contrast to men cadets of the previous year. Surprisingly, women cadets did not perceive lower levels of discriminatory treatment than women last year. These results demonstrate that the dynamics of women's feelings about discriminatory treatment are not well-understood. Perceptions of discriminatory treatment must not be simply dismissed as an example of women's intractability. Official policy statements have reaffirmed recently the Academy's commitment to fair treatment; the Cadet Chain of Command is charged with the responsibility of taking action on incidents of anti-female behavior which are reported to them.

Peer ratings of leadership ability are one indicator of success as a cadet. The data show a similar pattern of correlates of leadership for men and women. For both, physical ability, good marksmanship and high academic grades were positively associated with high leadership ratings. However, since a large percentage of women did not complete training runs with their squad during summer training, failure to complete the runs was negatively associated with leadership for women in the Class of 1980. For men, there was no fall-out problem, and no significant relation with

leadership. Training modifications for the Class of 1981 lead to a sharp reduction of the fall-out rate for women.

Can men and women be rated fairly by the same leadership rating system? In a preliminary analysis of the USMA system reported earlier, men and women in the Class of 1980 were rated as performing equally by the chain of command and by the Company Tactical Officer. Peer ratings and upperclass ratings in the Class of 1980 were lower for women. It is asserted that equal mean ratings should not be used as the sole criterion of unfairness. To illustrate another approach, we correlated physical ability, performance, motivation, and sex with leadership, using multiple regression. When other relevant individual characteristics are controlled by this technique, sex is still a significant predictor of leadership. For each component of the leadership, the weight given to being a woman, in comparison to being a man, is positive. In the case of the Company Tactical Officer's leadership ratings, women were given the equivalent of a one standard deviation boost (e.g., 100 points on the familiar SAT Score Scale). Perhaps it was justifiable to give women a boost in leadership ratings during the first year, to compensate for their poor physical performance in summer training. There is evidence that male cadets were aware of the boost given to women, and that it contributed to their resentment. In the long run, it implies continued, separate treatment of the sexes, and a lack of equity in the treatment of individuals. Though it seems difficult, more effort should be directed to defining leadership as a set of highly specific behaviors, rather than continuing to rely on judgmental ratings of overall leadership ability. There is too much room for personal likes and dislikes to influence such overall ratings.

Women who had attended the U.S. Military Academy Preparatory School before coming to West Point tended to receive higher peer ratings than women who did not. A similar result was found for men USMAPS graduates. These findings support the hypothesis that special preparatory training has a positive impact.

Although the first group of women cadets had experienced some problems with physical aspects of their summer basic training, their motives were positively affected. We now have data on their motives and self-concepts a year later, as they began their second year of academics. Both men and women had become less strong in Military Career Commitment. Men sharply decreased the strength of their verbal commitment to remain at the Academy until graduation. The women, who had initially been less committed to Academy graduation, maintained their earlier level. Students in other professional schools tend to show a similar decline in idealism. Both genders were much less anxious, at the end of the second summer, than they had been the previous year.

Cadets' self-concepts are an important part of their adjustment to the Academy. It was found that both men and women maintained a tendency to think of themselves as independent, active, competitive, decisive, self-confident--and other traits which are characterized by Spence as psychologically masculine. Women also maintained a tendency to attribute to themselves such traits as warm, gentle, helpful, understanding--and others

which Spence characterizes as psychologically feminine. In contrast, men tended to attribute to themselves significantly fewer of such psychologically feminine attributes at the end of the Field Training in 1977.

Although self-concepts may be considered as logically distinct from role concepts, cadets who have extremely negative self-concepts may not be very successful in performing cadet roles. Although both male and female cadets performed their roles as cadets with a fair degree of success, the data make it clear that men and women have a different style of adaptation to the cadet role. It was expected that good performance by cadets would result in positive changes in their self-concept and motivation. The results give qualified support to this hypothesis. For men and women, those with the highest grades were found to have decreased the most in test anxiety. The correlation was particularly strong among women, which may indicate that some women had been particularly fearful of how they would perform in a math-science engineering program, and lost this fear as a result of successfully completing their first year of academic work. Positive changes in self-concept were associated with high peer ratings on leadership. For example, men with above average leadership ratings become more masculine and more feminine in self-attribution. This finding gives support to the theory that both masculine and feminine qualities are important in leaders.

The data on women's performance reviewed so far have shown many similarities between men and women. However, men and women had entered USMA with very different preferences for life styles involving various combinations of marriage, career, and children. Since most of the women indicated they wanted marriage-career-and-children, the timing of these various life cycle events would be crucial to their success. An instrument for measuring life cycle event plans was administered to cadets in late August 1977. Men and women cadets did not differ consistently in the time they expected to experience certain work cycle events. But, for family cycle events, women planned longer delays in attainment than men. This indicates women are using a delay of gratification strategy similar to that used by other upwardly mobile groups in the past. For women, but not for men, plans for delay of family cycle events were associated with satisfaction at West Point, belief in a combat mission for West Point, Military Career Commitment, and Academy Graduation Commitment. For women, plans for delay of family cycle events are closely linked with adjustment. Although it will be a long time before we have empirical evidence on the predictive validity of these life cycle event measures, the data indicate that family cycle event planning is an important consideration for women cadets. Traditionally, the service academies have been successful in motivating graduates to remain in the military for more than the five years of initial obligatory service. If women graduates of the military academies are to do the same, they will need help in accommodating their own personal life style plans with military requirements.

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APPENDIX 1

LIFE STYLE PLANNING QUESTIONNAIRE

Long-range plans: Sooner or later, many cadets expect to experience the life events listed below. To a certain extent, assuming a normal amount of luck, you can plan these events, or postpone them by careful scheduling, hard work, and foresight. For each item below, please indicate the dedired time you plan for each event to occur, using the scale provided. Make an estimate for each item, even if your plans are only tentative at present.

A This event has already occurred--no further plans required

B I plan this event before graduation from USMA

C I plan this event within 2 years after graduation

D I plan this event 3-5 years after graduation

E I plan this event 6-8 years after graduation

F I plan this event 9-15 years after graduation

G I plan this event 16-20 years after graduation

H I plan this event more than 20 years after graduation

I I plan to avoid this event if possible; never is soon enough

91. Buy a car.

92. Get engaged.

93. Get a graduate degree.

94. Get married.

95. Live overseas for a year or more.

96. Become a parent; have my first child.

97. Be promoted to an extremely responsible job.

98. Leave military service.

APPENDIX 2

STEPWISE REGRESSION MODELS FOR PREDICTING LEADERSHIP
(Additional details for Tables 5 and 6)

a. Variables Used:

Variable	Mean	Standard Deviation	Cases
PEER	9.64	0.77	1172
TAC	20.18	1.47	1172
UPPER	9.53	0.76	1172
COC	15.83	0.65	1172
VAR072	533.34	107.60	1481
VAR009	48.57	7.54	1345
VAR010	0.24	1.16	1433
YEAGPA	2.48	0.20	1236
VAR015	1.08	0.27	1485
VAR077	340.65	53.25	1387
VAR022	57.98	15.77	1392
VAR028	21.22	4.54	1414
VAR029	22.65	4.94	1414
VAR106	355.23	33.85	1224
VAR055	59.91	17.65	1157
VAR063	23.40	5.53	1179
VAR064	21.76	4.99	1179

b. Analyses Run:

```
VARIABLES=PEER,TAC,UPPER,COC,VAR072,VAR009,VAR010,YEAGPA,VAR015,VAR077,
VAR022,VAR028,VAR029,VAR106,VAR055,VAR063,VAR064/
REGRESSION=UPPER WITH VAR072 TO YEAGPA(6),VAR015(2),VAR077 TO VAR029(4)/
REGRESSION=UPPER WITH VAR072(8),VAR009 TO YEAGPA(4),VAR015(6),VAR077 TO
VAR029(2),VAR106 TO VAR064(1)/
REGRESSION=TAC WITH VAR072 TO YEAGPA(6),VAR015(2),VAR077 TO VAR029(4)/
REGRESSION=TAC WITH VAR072(8),VAR009 TO YEAGPA(4),VAR015(6),VAR077 TO
VAR029(2),VAR106 TO VAR064(1)/
REGRESSION=PEER WITH VAR072 TO YEAGPA(6),VAR015(2),VAR077 TO VAR029(4)/
REGRESSION=PEER WITH VAR072(8),VAR009 TO YEAGPA(4),VAR015(6),VAR077 TO
VAR029(2),VAR106 TO VAR064(1)/
REGRESSION=COC WITH VAR072 TO YEAGPA(6),VAR015(2),VAR077 TO VAR029(4)/
REGRESSION=COC WITH VAR072(8),VAR009 TO YEAGPA(4),VAR015(6),VAR077 TO
VAR029(2),VAR106 TO VAR064(1)/
2
1,2
```

c. Summary Tables for Full 9-Variable Prediction of Leadership Score:

Dependent Variable.. TAC

Variable		Sum Multiple R	Simple R	Beta
VAR072	PAE SCORE	0.15	0.15	0.28
VAR015	SEX	0.19	-0.01	0.27
VAR009	MARKSMANSHIP SCORE	0.22	0.10	0.07
VAR010	FALLOUT	0.25	-0.12	-0.12
YEAGPA	YEAR-END ACAD GRADE POINT AVG JUNE 77	0.41	0.31	0.32
VAR077	PRE-CBT TENN SLF-CNCPT TOTAL POSITIVE	0.42	0.20	-0.07
VAR022	MCCOG FROM DSR211J2	0.42	-0.00	0.03
VAR028	FEMVAL FROM NCT	0.42	0.12	0.16
VAR029	MALVAL FROM NCT	0.43	0.13	0.01
VAR063	MALVAL FROM RWK76	0.43	0.15	0.11
VAR064	FEMVAL FROM RWK76	0.43	0.06	-0.09
VAR106	POST-CBT TENN SLF-CNCPT TOTAL POSITIVE	0.43	0.09	0.03
VAR055	MCCOG FROM DSR211L	0.43	-0.00	-0.03

Dependent Variable.. UPPER

VAR072	PAE SCORE	0.22	0.22	0.25
VAR015	SEX	0.22	-0.14	0.09
VAR009	MARKSMANSHIP SCORE	0.24	0.13	0.09
VAR010	FALLOUT	0.26	-0.16	-0.09
YEAGPA	YEAR-END ACAD GRADE POINT AVG JUNE 77	0.38	0.27	0.28
VAR077	PRE-CBT TENN SLF-CNCPT TOTAL POSITIVE	0.39	0.11	0.13
VAR022	MCCOG FROM DSR211J2	0.39	-0.04	-0.03
VAR028	FEMVAL FROM NCT	0.40	0.12	0.08
VAR029	MALVAL FROM NCT	0.40	0.09	-0.06
VAR106	POST-CBT TENN SLF-CNCPT TOTAL POSITIVE	0.40	0.06	-0.07
VAR064	FEMVAL FROM RWK76	0.40	0.09	0.01
VAR063	MALVAL FROM RWK76	0.40	0.11	0.01

c. (Continued)

Dependent Variable.. PEER

Variable		Sum Multiple R	Simple R	Beta
VAR072	PAE SCORE	0.18	0.18	0.21
VAR015	SEX	0.18	-0.11	0.11
VAR009	MARKSMANSHIP SCORE	0.21	0.12	0.08
VAR010	FALLOUT	0.24	-0.17	-0.12
YEAGPA	YEAR-END ACAD GRADE POINT AVG JUNE 77	0.34	0.24	0.25
VAR077	PRE-CBT TENN SLF-CNCPT TOTAL POSITIVE	0.35	0.09	-0.00
VAR022	MCCOG FROM DSR 211J2	0.35	-0.01	0.01
VAR028	FEMVAL FROM NCT	0.37	0.15	0.22
VAR029	MALVAL FROM NCT	0.37	0.08	-0.08
VAR064	FEMVAL FROM RWK76	0.38	0.06	-0.10
VAR063	MALVAL FROM RWK76	0.38	0.11	-0.07
VAR055	MCCOG FROM DSR211L	0.38	-0.00	-0.02
VAR106	POST-CBT TENN SLF-CNCPT TOTAL POSITIVE	0.38	0.08	0.02

Dependent Variable.. COC

VAR072	PAE SCORE	0.13	0.13	0.25
VAR015	SEX	0.19	0.00	0.28
VAR009	MARKSMANSHIP SCORE	0.26	0.19	0.15
VAR010	FALLOUT	0.28	-0.10	-0.10
YEAGPA	YEAR-END ACAD GRADE POINT AVG JUNE 77	0.38	0.25	0.27
VAR077	PRE-CBT TENN SLF-CNCPT TOTAL POSITIVE	0.39	0.09	0.06
VAR022	MCCOG FROM DSR211J2	0.39	0.04	0.02
VAR028	FEMVAL FROM NCT	0.40	0.10	0.18
VAR029	MALVAL FROM NCT	0.40	0.13	-0.04
VAR064	FEMVAL FROM RWK76	0.42	-0.01	-0.25
VAR063	MALVAL FROM RWK76	0.43	0.14	0.16
VAR106	POST-CBT TENN SLF-CNCPT TOTAL POSITIVE	0.43	0.06	-0.06
VAR055	MCCOG FROM DSR211L	0.43	0.05	0.02

APPENDIX 3

REGRESSION ANALYSIS OF CHANGE IN MOTIVATION AND SELF-CONCEPT

a. Women's Sample: Variables Used, Cases.

Variable	Mean	Standard Deviation	Cases
RWK61	55.52	13.04	73
RWK63	69.98	12.62	65
ANXIETY	5.19	3.54	75
MALVAL2	22.67	4.05	75
FEMVAL2	22.77	3.50	75
VAR055	58.59	16.97	83
VAR056	72.41	21.15	83
VAR065	6.01	3.95	83
VAR063	22.08	4.48	83
VAR064	23.14	3.59	83
YEAGPA	2.47	0.19	94
VAR072	281.18	71.43	119
PEER	9.34	0.87	88
VAR010	2.57	3.32	100
VAR009	45.77	6.46	105

b. Analyses Run.

```
(VAR015 EQ 2)
VARIABLES=RWK61,RWK63,ANXIETY,MALVAL2,FEMVAL2,VAR055,VAR056,VAR065,
VAR063,VAR064,YEAGPA,VAR072,PEER,VAR010,VAR009/
REGRESSION=RWK61 WITH VAR055(4),YEAGPA TO VAR009(2)/
REGRESSION=RWK63 WITH VAR056(4),YEAGPA TO VAR009(2)/
REGRESSION=MALVAL2 WITH VAR063(4),YEAGPA TO VAR009(2)/
REGRESSION=FEMVAL2 WITH VAR064(4),YEAGPA TO VAR009(2)/
REGRESSION=ANXIETY WITH VAR065(4),YEAGPA TO VAR009(2)/
2
1,2
```

c. Summary Tables - 5 Variable Models for Women.

Dependent Variable.. RWK63 AGCOG

Variable		Sum Multiple R	Simple R	Beta
VAR056	AGCOG FROM DSR211L	0.38	0.38	0.43
VAR009	MARKSMANSHIP SCORE	0.38	0.05	0.16
YEAGPA	YEAR-END ACAD GRADE POINT AVG JUNE 77	0.54	-0.31	-0.39
VAR072	PAE SCORE	0.55	-0.05	-0.13
PEER		0.55	-0.11	-0.04
VAR010	FALLOUT	0.55	0.08	-0.01

Dependent Variable.. RWK61 MCCOG

VAR055	MCCOG FROM DSR211L	0.58	0.58	0.57
VAR009	MARKSMANSHIP SCORE	0.59	-0.14	-0.12
YEAGPA	YEAR-END ACAD GRADE POINT AVG JUNE 77	0.59	-0.14	-0.01
VAR072	PAE SCORE	0.59	0.09	0.01
PEER		0.59	-0.04	0.03
VAR010	FALLOUT	0.60	0.10	0.11

Dependent Variable.. MALVAL2 SPENCE PAQ MASCULINITY - RWK

VAR063	MALVAL FROM RWK76	0.70	0.70	0.62
VAR009	MARKSMANSHIP SCORE	0.70	0.15	0.06
YEAGPA	YEAR-END ACAD GRADE POINT AVG JUNE 77	0.70	0.10	0.04
VAR072	PAE SCORE	0.70	0.22	-0.03
PEER		0.72	0.27	0.10
VAR010	FALLOUT	0.74	-0.45	-0.22

Dependent Variable.. FEMVAL2 SPENCE PAQ FEMINITY - RWK

VAR064	FEMVAL FROM RWK76	0.63	0.63	0.66
VAR009	MARKSMANSHIP SCORE	0.67	0.19	0.25
YEAGPA	YEAR-END ACAD GRADE POINT AVG JUNE 77	0.67	0.06	-0.06
VAR072	PAE SCORE	0.67	-0.14	-0.02
PEER		0.68	0.10	0.03
VAR010	FALLOUT	0.68	0.02	-0.07

c. (Continued)

Dependent Variable.. ANXIETY TEST ANXIETY RWK77-AUGUST 1

Variable		Sum Multiple R	Simple R	Beta
VAR065	TEXTANX FROM DSR211L	0.82	0.82	0.86
VAR009	MARKSMANSHIP SCORE	0.82	0.18	0.24
YEAGPA	YEAR-END ACAD GRADE POINT AVG JUNE 77	0.93	-0.31	-0.40
VAR072	PAE SCORE	0.93	-0.00	-0.01
PEER		0.94	-0.04	-0.17
VAR010	FALLOUT	0.94	-0.11	-0.03

d. Variables, Means, Cases for Men.

Variable	Mean	Standard Deviation	Cases
RWK61	55.31	13.98	893
RWK63	68.52	13.71	763
ANXIETY	3.94	2.83	925
MALVAL2	24.16	4.04	937
FEMVAL2	21.67	3.73	938
VAR055	60.01	17.71	1074
VAR056	76.77	18.57	1074
VAR065	5.19	3.38	1074
VAR063	23.98	4.51	1074
VAR064	22.10	4.05	1074
YEAGPA	2.48	0.20	1142
VAR072	555.37	78.12	1362
PEER	9.67	0.75	1084
VAR010	0.06	0.44	1311
VAR009	48.81	7.58	1240

e. Regression Models for Males.

Dependent Variable.. RWK61 MCCOG

Variable		Sum Multiple R	Simple R	Beta
VAR055	MCCOG FROM DSR211L	0.54	0.54	0.54
VAR009	MARKSMANSHIP SCORE	0.54	0.05	0.02
YEAGPA	YEAR-END ACAD GRADE POINT AVG JUNE 77	0.54	-0.05	-0.03
VAR072	PAE SCORE	0.54	-0.01	0.01
PEER		0.54	0.03	0.04
VAR010	FALLOUT	0.55	0.01	0.05

Dependent Variable.. RWK63 AGCOG

VAR056	AGCOG FROM DSR211L	0.36	0.36	0.36
VAR009	MARKSMANSHIP SCORE	0.36	-0.01	-0.01
YEAGPA	YEAR-END ACAD GRADE POINT AVG JUNE 77	0.36	-0.04	-0.05
VAR072	PAE SCORE	0.36	0.01	0.01
PEER		0.37	0.06	0.07
VAR010	FALLOUT	0.37	0.04	0.07

Dependent Variable.. MALVAL2 SPENCE PAQ MASCULINITY - RWK

VAR063	MALVAL FROM RWK76	0.55	0.55	0.52
VAR009	MARKSMANSHIP SCORE	0.55	0.04	0.02
YEAGPA	YEAR-END ACAD GRADE POINT AVG JUNE 77	0.55	0.03	0.01
VAR072	PAE SCORE	0.56	0.19	0.11
PEER		0.57	0.19	0.12
VAR010	FALLOUT	0.58	0.05	0.05

Dependent Variable.. FEMVAL2 SPENCE PAQ FEMININITY - RWK

VAR064	FEMVAL FROM RWK76	0.46	0.46	0.45
VAR009	MARKSMANSHIP SCORE	0.46	-0.00	0.01
YEAGPA	YEAR-END ACAD GRADE POINT AVG JUNE 77	0.46	-0.05	-0.08
VAR072	PAE SCORE	0.46	0.04	-0.01
PEER		0.47	0.12	0.10
VAR010	FALLOUT	0.47	0.02	-0.00

e. (Continued)

Dependent Variable.. ANXIETY TEST ANXIETY RWK77 - AUGUST

Variable		Sum Multiple R	Simple R	Beta
VAR065	TESTANX FROM DSR211L	0.60	0.60	0.56
VAR009	MARKSMANSHIP SCORE	0.60	0.00	0.03
YEAGPA	YEAR-END ACAD GRADE POINT AVG JUNE 77	0.63	-0.31	-0.20
VAR072	PAE SCORE	0.63	0.06	-0.01
PEER		0.63	0.01	0.06
VAR010	FALLOUT	0.63	-0.02	-0.05